



US Army Corps
of Engineers®

Environment

The Corps

April - June 2001

Vol. 2, No. 2

Davis Pond Freshwater Diversion intended to save wetlands, improve wildlife habitat

By ERIC HUGHES

New Orleans District

Once completed, the Davis Pond Freshwater Diversion project in St. Charles Parish, La., will divert flows under regulated conditions determined by basin salinities. It is estimated that during the next 50 years, 33,000 acres of wetlands will be saved, and 777,000 acres of marshes and bays should be improved as habitat for fish and wildlife as a result of this structure.

The \$106.8 million New Orleans District project began in January 1997 and was built on the west bank of the Mississippi River below Luling. According to Resident Engineer Dennis Duhon, it should be able to send Mississippi River fresh water to Barataria Bay in August or September of this year, making it the second freshwater diversion structure, following Caernarvon, to grab a piece of the Mississippi River's freshwater flow.

Besides completing the pumping station and the guide levees, several other key structures are now finished, such as the new U.S. Highway 90 and Santa Fe Railroad bridges, and the Cypress-Lumber Canal Levee. The Outflow Channel, 11,000 feet long and 120 feet wide at the bottom, was to be completed in May. It connects the diversion structure to a nearby ponding area, and from there the water goes into Lake Cataouatche on its way to the Gulf of Mexico.

The water will pass, as needed, through four iron-gated, 14- by 14-foot box culverts built into the levee. This will recreate a portion of the river's natural historic spring overflows. The controlled, marsh-supporting fresh water will flow south into



The Davis Pond Structure (top photo) has a total project area of 10,084 acres, and will divert river water at up to 80,000 gallons per second. Four iron-gated box culverts (bottom right) are raised uniformly to maintain a balanced flow of water out of the structure, and the discharge lines (bottom left) from the pumping station convey local storm water into the 9,300-acre ponding area.

the Barataria Bay estuary, providing nutrients and some sediments, thereby restoring marsh vegetation.

"Davis Pond is definitely a positive for the environment," Duhon said.

With an early autumn completion date looming, "the majority of the work [remaining] is to finish rebuilding the main line Mississippi River levee and remove the temporary river levee," he said.

Duhon is on-site, representing the

district's Construction Division, to see that the project is constructed in accordance with the plans and specifications. Eight general contractors and numerous subcontractors have been associated with the project, each handling a different aspect of this large, 10,650 cubic-foot-per-second, capacity diversion.

Duhon has also been busy in the surrounding community, keeping residents informed on the project's construction.

"We worked with the duck hunters and worked around their hunting schedule," he said, adding it's also been important to talk to the residents of Willowdale, a subdivision adjacent to Davis Pond.

"We reassured them that the construction was not going to impact them," he said.

The community efforts make up just one aspect, but Duhon commends his team for the overall success of the project. "Everything's gone pretty well," he said. "There are many people involved, and because of a great deal of coordination, everything has run smoothly."

For further information, contact Eric Hughes at 504. 862.2201 or Eric.Hughes@mvn02.usace.army.mil.

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Environment *The Corps*

Distributed quarterly by the U.S. Army Corps of Engineers, *The Corps Environment* is an unofficial newsletter published under the authority of AR 25-30. The purpose of this newsletter is to provide information about Corps environmental actions, issues, policies and technologies. Inquiries can be addressed to U.S. Army Corps of Engineers, Attn: CEHNC-PA, P.O. Box 1600, Huntsville, AL 35807-4301. Phone: DSN 760.1692, commercial 256.895.1692 or fax 256.895.1689.

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Quarterly publication is subject to these deadlines: Feb. 15 (JAN - MAR issue) May 15 (APR - JUN issue) Aug. 15 (JUL - SEP issue) Nov. 15 (OCT - DEC issue) All submissions are subject to editing when necessary.

The Corps Environment is available on the World Wide Web at <http://hq.environmental.usace.army.mil/newsinfo/current/current.html>. To receive a copy via e-mail distribution, please send your request to Kim Gillespie.

St. Louis District FUSRAP project uses TPP

By **RON FRERKER**

St. Louis District

The St. Louis District Formerly Utilized Sites Remedial Action Program (FUSRAP) team has the challenging mission of cleaning up radioactive wastes left over from the Manhattan Engineering District (MED) work in St. Louis in the 1940s. The team met the challenge by using the Corps' Hazardous, Toxic, and Radioactive Waste (HTRW) Technical Project Planning (TPP) guidance to organize data collection, and ultimately, save money.

The MED refined uranium ore used a multi-step organic extraction process to produce the pure uranium metal needed for atomic bomb production during World War II. Each step produced a waste stream, which contaminated numerous locations in the St. Louis metropolitan area.

As part of the cleanup process, the Corps places wells at various locations around the contaminated areas in order to monitor the effects of the waste on the groundwater and later, after remediation, to check on the efficacy of the cleanup. A Corps team determines the number and placement of these wells.

An important member of the team is the geologist, who believes more is better when it comes to the number of wells. Also involved in the process are the state regulators, who can never have too many samples. And, of course, the project manager never has enough money to meet everyone's desires.

The solution was to dust off a copy of EM 200-1-2, Technical Project Planning Guidance for

HTRW Data Quality Design, or TPP. There are certain attributes to this scientific process: It's focused on site close-out, useful for all sites, applicable for all aspects of site planning (investigation, design, construction, operation and maintenance and

peers comes together to follow this outline, we find that some of the "agency baggage" gets left behind, and we focus on the solution to the problem. As a team, we try to identify the basic, optimum and excessive sampling objectives.

So, what happened?

When the Corps took over the FUSRAP site from the Department of Energy in 1997, the well sampling for the roughly 90 wells was costing approximately \$240,000 per year. After the final implementation of the TPP program, the Corps' well sampling for fiscal year 2001 is estimated to cost

\$100,000 with no loss of needed data.

The Corps used this process on three occasions for this project. The second application's savings were hard to estimate. However, by getting "buy-in" from regulators and stakeholders and using background samples from the fill material that makes up much of the St. Louis waterfront rather than from nearby residential areas, the Corps was able to get a more realistic value for the background values of the radioactive contaminants.

Additionally, common industrial contaminants that were not MED related could be documented and therefore eliminated.

While the process can seem cumbersome and not easily applicable to some small sampling regimes, the results for the larger sampling programs make it a valuable tool in the Corps' arsenal.

For details concerning the MED FUSRAP project and the TPP process contact Ron Frerker at 314.263.4008.

After the final implementation of the TPP program, the Corps' well sampling is estimated to cost \$100,000 with no loss of needed data and a savings of approximately \$140,000.

long-term monitoring), and provides guidance for all team members (scientists, engineers, project managers, regulators and customers). Use of the TPP process typically saves 10 to 15 percent of project time and costs.

There's nothing magical to this process. It's just a formalized application of the scientific method. It has four phases. The first phase is to identify current project needs, determine data needs, develop data collection options and finalize the data collection program. Phases two and three are parts of an iterative process where the number of iterations depends on the complexity of the project.

The actual teaming process, or step four, is where the magic comes in. The Environmental Protection Agency and state regulators, scientists with the Corps' Architecture/Engineering firm, Corps scientists and a facilitator from the Corps' Hazardous, Toxic and Radioactive Waste Center of Expertise (HTRW-CX) participated in the teaming process.

As we have seen in the past, when this group of scientific

Sustainable development meets short-, long-term project goals

By RHEA COHEN

Corps Headquarters

The U.S. Army Corps of Engineers has the opportunity to become “a major national source of expertise that carries the knowledge of what sustainability is into engineering practice,” according to the Corps’ Engineer Research and Development Center (ERDC) report, “Planning, Engineering, and Design of Sustainable Facilities and Infrastructure.”

Sustainability describes a process and/or project that not only benefits the immediate customer but also other affected stakeholders while minimizing negative impacts and resource use, without compromising the ability of future generations to meet their own needs. Sustainable design generates local, regional, and global environmental, economic, and social benefits, such as constructing a building and incorporating energy conservation. Such a facility is designed to serve near-term and long-range energy efficiency needs throughout its life cycle while producing a minimum of waste and pollution.

Sustainable development can comprise several design elements to meet multiple needs, for example: environmental enhancements, both on- and off-site, that go beyond pollution minimization and site restoration; energy efficiency and reduced reliance on fossil fuels; eco-friendly (“green”) building practices and materials; generating local economic benefits; and providing public access, recreation amenities, or other social equity improvements for the host community.

Sustainable design and development (SDD) is addressed in several Corps military studies, policies, and guidance documents; some of

which could potentially be applied to Civil Works activities. These SDD documents call upon the project manager, in the pre-design phase, to cast a wide net for stakeholders, particularly those government agencies and non-governmental organizations that can provide funding or in-kind contributions for the SDD enhancements. These contributions maximize the customer’s development investment.

In a hypothetical SDD project, the Corps Civil Works Program could rehabilitate a stream running through a local government-owned property and the County Parks Commission could establish a pocket park on the stream bank both on- and off-site. Off-site along the stream, the U.S. Department of the Interior regional office could conduct a bird census to determine the baseline and the State Natural Resources Department could create a bird sanctuary. After project completion, for the state’s natural resources inventory, the local Audubon Society chapter could report periodically on the species and numbers of birds sighted in the same vicinity.

The front-end costs for the extra meetings and studies in the SDD project will run slightly higher than for a conventional project. Nevertheless, the customer gains the goodwill of the community because of the cooperative partnering experience and also because the local benefits quickly become visible. Within the first year, the customer begins to realize the long-term, significant energy and other operational cost savings for the facility. Each SDD project potentially represents another step toward national expertise in sustainability engineering.

Corps sustainable development studies, policies, guidance documents available

- *Environmental Quality—Technical Project Planning (TPP) Process* (EM 200-1-2), **August 1998**. POC for policy: Heidi Novotny, 402. 697.2626. POC for Prospect Course #224, “Planning for Project Execution”: Joy Rodriguez, 256. 895.7448. POC for non-Prospect training: Heidi Novotny, 402.697.2626. Website: <http://www.usace.army.mil/inet/usace-docs/eng-manuals/em200-1-2/toc.htm>
- *Sustainable Development: Concepts, Goals and Relevance to the Civil Works Program* (IWR Report 99-PS-1), **May 1999**. POC: Lynn Martin, 703. 428.8065. Website: <http://www.wrsc.usace.army.mil/iwr/pdf/99ps01.pdf>
- *Environmental Quality—Green Building Technology in Hazardous Waste Cleanup Applications* (EP 200-1-10), **December 1999**. POC: Ed Bave, 402. 697.2634. Website: <http://www.usace.army.mil/inet/usace-docs/eng-pamphlets/ep200-1-10/>
- “Rating Tool for Sustainable Design Now on Web,” by Stephen Flanders, et al., *USACE Public Works Digest*, **Nov./Dec. 2000**, online p. 16 of 40. POC: Richard L. Schneider, 217.373.6752. Website: <http://www.hq.usace.army.mil/isd/pubs/Digest/nov00.pdf>
- *Planning, Engineering and Design of Sustainable Facilities and Infrastructure: An Assessment of the State of Practice* (ERDC TR-01-3), **March 2001**. POCs: Brian M. Deal, 217.352.6511, ext. 7461; Stephen N. Flanders, 603.646.4302; Donald Fournier, 217. 373.7282; Richard L. Schneider, 217.373.6752; and, Annette L. Stumpf, 217.352.6511, ext. 7542. Website: <http://www.cecer.army.mil/td/tips/pub/details.cfm?PUBID=4031&RESEARCH=2>
- “USACE Offers Interim Sustainable Design and Development Tool with SPiRiT,” by Richard Schneider and Harry Goradia, *USACE Public Works Digest*, **Apr./May 2001**, online p. 35 of 44. POCs: Richard L. Schneider, 217.373.6752, and Harry Goradia, 703.428.6460. Website: <http://www.hq.usace.army.mil/ISD/PUBS/DIGEST/PWDigest%20april01.pdf>
- *Sustainable Design for Military Facilities* (ETL 1110-3-491), **May 1, 2001**. POC for policy and training: Harry Goradia, 703.428.6460. Website: <http://www.usace.army.mil/inet/usace-docs/eng-tech-ltrs/etl1110-3-491/toc.htm> (will contain revised ETL when posted).
- “Sustainable Project Rating Tool (SPiRiT),” Army Chief of Staff for Installation Management (ACSIM) memorandum, **May 4, 2001**. Website: <http://www.hqda.army.mil/acsimweb/fd/docs/spirit.pdf>
- Army Chief of Staff for Installation Management (ACSIM) Information on Sustainable Design and Development (**Online**). POCs: see Feedback toggle. Website: <http://www.hqda.army.mil/acsimweb/fd/linksSDD.htm>
- ERDC-CERL Sustainable Design and Development Resource (**Online**). POC: Annette Stumpf, 217.352.6511, ext. 7542, or 800.USA.CERL, ext. 7542. Website: <http://www.cecer.army.mil/sustdesign>

Corps, AEC sign partnering agreement

WASHINGTON — Maximizing full capabilities and identifying and developing new joint opportunities are two of the hallmarks of a Partnering Agreement the U.S. Army Corps of Engineers and the Army Environmental Center signed on May 17.

In a ceremony at Corps Headquarters, Col. Stanley H. Lillie, AEC Commander, signed the agreement with Patricia A. Rivers, Chief, Environmental Division, Kristine Allaman, Chief Installation Support Division, and Dr. Lewis E. Link Director, Research and Development, all representing the Corps of Engineers.

According to Rivers, the agreement will

support ongoing joint efforts such as technology demonstration and transfer, and encourage new initiatives such as working with the AEC Regional offices in support of the Formerly Utilized Defense Sites program, which the Corps executes.

Following the signing ceremony, the representatives of the two Army organizations discussed how they will work together on unexploded ordnance issues. The two organizations agreed to participate in a number of meetings in the near future to discuss and define joint efforts in other areas to include installation support, environmental cleanup and restoration,

base closure, range sustainment and environmental technology demonstration and deployment.

In 1994, the Corps and AEC signed an agreement concerning “non-restoration” environmental support to the Army. This led to several cooperative initiatives to provide effective support services to installations in meeting the requirements for the National Environment Protection Act, Clean Air Act permitting, Integrated Natural Resources Management Plans and Native American Graves Protection and Repatriation Act inventories and reports.

Encroachment, environmental issues impact training

By JOE BURLAS

WASHINGTON (Army News Service, April 12, 2001) — Encroachment, a growing list of endangered species and harsher interpretations of environmental statutes are impacting the use of Army training ranges, and consequently, military readiness.

Maj. Gen. R.L. Van Antwerp, the Army’s assistant chief of staff for installation management, made that observation during a statement to members of the Senate Armed Forces Committee March 20.

While stating that the Army was not seeking relief from environmental laws, the general did ask for Congressional support of Army programs and plans that could lessen the impact these issues have on the use of training ranges.

Encroachment refers to the urban development of areas immediately surrounding military installations. Many posts were established decades ago in rural areas. As suburbia’s sprawl now bumps up against these posts, civilian complaints of dust, smoke and noise caused by maneuver, live-fire exercises and over-flights by military aircraft usually increase, officials said. In a few cases, this has caused installations to limit the hours when or where training can occur to ease community relations with annoyed civilian neighbors.

In addition, encroachment has severely scaled down the size of wildlife habitats surrounding Army bases — making many training ranges “islands of biodiversity” no longer found outside the front gate, according to Van Antwerp. Federal regulations protecting a growing list of endangered plant and animal life living among those “islands” has limited the use of many training ranges, he said. There are currently 153 federally listed endangered species making their homes among 94 Army installations.

“The effectiveness of these communities is enhanced by a system of environmental regulation that allows for discretionary enforcement and citizen’s authority to challenge regulatory decisions, resulting in pressure on regulators to interpret environmental requirements most conservatively to avoid speculative effects or risk litigation,” Van Antwerp told the committee.

The general gave Fort Hood, Texas, as an example where

encroachment issues and environmental compliance has affected the Army’s use of its ranges and training areas. Due to noise restrictions and requirements to protect a number of endangered species and more than 2,400 archeological and culturally significant sites, only about 17 percent of Fort Hood’s 185,000 acres of training lands are available without restrictions throughout the year.

While the Army has an obligation to meet other federal agencies regulations, it also has the requirement to train soldiers as realistically as possible, he said. That means maintaining two-way lines of communication between agencies to understand each side’s positions thus reducing the chance of arbitrary decisions, he said.

To balance the demands of environmental compliance and encroachment with the training needs of the Army, a Sustainable Range Management program is currently being implemented, Van Antwerp said. The program will seek to maintain the most current and best information on environmental compliance and integrate that information into the daily management of training ranges at more than 400 Army installations.

Another encroachment initiative the Army continues to pursue is partnering with conservation groups to buy land for wildlife areas just outside installation fence lines to create buffers against urban development. Fort Bragg has been successful in this area by partnering with The Nature Conservancy.

On Cape Cod, the Environmental Protection Agency rendered a decision to cease all live-fire training at the Massachusetts Military Reservation in 1997 due to high levels of lead in the soil. The Army then implemented the use of “green” environmentally safe ammunition. This allowed the MMR small-arms ranges to reopen.

Other initiatives to sustainably address the environmental and encroachment issues across the Army include designing small-arms ranges to minimize erosion, employing shock-absorbing concrete to provide reusable backstops and using dust-control technologies on tank trails and helicopter hover pads, according to the testimony.

Fort Worth District helps Fort Hood achieve environmental goals

By ANITA HORKY
Fort Worth District

Fort Hood will be one of the first installations in Forces Command to close out its Resource Conservation and Recovery Act Facility Investigation (RFI) program by the end of this fiscal year, thanks to the teamwork of the installation, the Corps' Fort Worth District and other agencies.

"When you have various entities involved, agreement on resolutions is hard to accomplish," said Mary White, an environmental protection specialist at Fort Hood. "But in the case of Fort Hood's RFI, all the parties worked very hard to come to effective and efficient solutions to those situations that arose. The partnering that existed was the main reason for the success of Fort Hood's RFI project."

The RFI determines if solid waste management units, such as abandoned landfills and underground storage tanks, are contaminating the environment.

In 1994, the Texas Natural Resource Conservation Commission (TNRCC), the state's environmental regulatory agency, identified 40 sites at Fort Hood requiring an RFI. With limited funding available and time constraints imposed by the TNRCC, Fort Hood hired the Corps' Fort Worth District to complete RFIs on two sites.

"We coordinated with the TNRCC during the development of the RFI work plans, so there was minimal review by the TNRCC and few comments," said Debbie Perrin of the Fort Worth District who worked on the RFIs. This saved Fort Hood time and money. The district finished the RFIs and recommended no further action on the two sites.

Working with Fort Hood, state regulators and contractors, the Fort Worth District then prepared RFI work plans for the remainder of the identified sites. The district scoped, negotiated and awarded contracts for field investigations, assessments, remediation and closure activities; provided technical assistance; and reviewed

reports for submission to TNRCC.

"It was important to make sure the TNRCC submittals were thorough and complete to allow for regulatory concurrence without requiring additional field work and numerous rounds of regulatory reviews," said the Fort Worth District's Henry Kasten, who oversees the Corps' environmental work at Fort Hood. "It was also important to ensure Fort Hood's funding was well spent."

"The Corps was instrumental in handling the technical oversight provided during fieldwork and also in reviewing any changes or modifications to the original work plan to accommodate situations that arose," White said. "As part of the RFI project, I personally felt that the Fort Worth District addressed all of my concerns in a timely and satisfactory manner. Any challenges that arose were resolved and all parties involved were kept abreast of the situation."

By the end of 2000, the TNRCC had reviewed and approved all but one of the RFIs with no future action.

"Fort Hood reached the FY99 goal of closing out the investigation portion of the RFI," White said. "With continued support, Fort Hood will be one of the first installations in FORSCOM to close out the RFI by the end of FY01. Because none of the sites required remedial action or long-term monitoring, Fort Hood should be able to close out the restoration program."

For more information, contact Anita Horky at 817.978.3395.



Workers excavate a site on Fort Hood to determine if there has been contamination.

CERCLA cost recovery applies to Corps programs

By **CHERYL YOUNG**
HTRW CX

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), provides for the recovery from responsible parties of all environmental response costs incurred by the federal government.

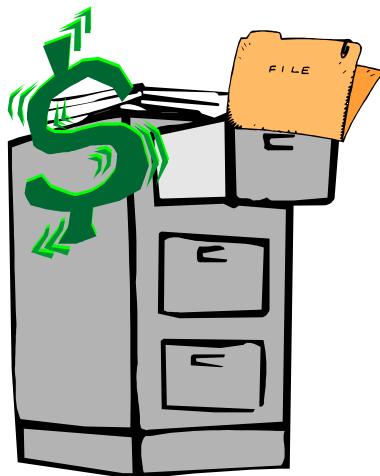
The U.S. Army Corps of Engineers has the responsibility to ensure all costs incurred in association with those various programs are supportable with documentary evidence and acceptable in a court of law. Even though the majority of the cost recoveries have been Superfund projects, one Formerly Utilized Sites Remedial Action Program project has been documented and four Formerly Used Defense Site projects are in the process of being documented for cost recovery.

Corps, EPA MOA

In 1989, a memorandum of agreement was signed by the Corps and the Environmental Protection Agency establishing a cost recovery mission for the Corps. Under the agreement, EPA agreed to finance a contractor to visit each district, retrieve all of the Superfund related financial documents and create the site files. The Corps agreed to provide a Cost Recovery Coordinator to oversee the contractor's activities and provide necessary coordination with the local districts. The Corps assigned the coordinator responsibilities to the Missouri River Division. That function now resides with the Hazardous, Toxic and Radioactive Waste Center of Expertise (HTRW-CX), at the

Omaha District, and there are currently two coordinators.

In order to pursue a cost recovery under CERCLA, the government must be able to prove that the government did work at the site to remedy or prevent release of a hazardous



Good project records and documentation are necessary for a cost recovery effort.

substance and that the government can accurately document the cost of the remedy or prevention.

Records associated with a cost recovery fall under the categories of contractual, project management and financial. It is the responsibility of each office associated with an environmental response action to know the type of documents they are required to maintain, by law or regulation, in order to support the documentation and cost recovery effort required by the SARA.

New file numbers

In August 1999, the moratorium on destruction of environmental response action records was lifted and new Environmental Classification Standards were released. All official files for environmental actions must reflect

these new file numbers and disposition periods found in the Modern Army Record Keeping System (MARKS), AR25-400-2. To view this regulation, visit the Web site <http://www.usace.army.mil/inet/functions/im/ceimi/recmgmt/markpoc.htm>. If

you need further clarification, contact your Records Manager.

A cost recovery request is usually received from the EPA or the Department of Justice. If the request is for a Superfund project, the coordinators prepare a work order to the contractor and they are able to obtain the Corps of Engineers Management Information

Systems financial documentation from their site file copies previously obtained at the appropriate district.

For the Corps of Engineers Financial Management System documentation, the contract staff and the coordinators have access to all of the Corps databases and can extract the reports and facsimile copies of documents while sitting at their desk. However, the performing district must still provide copies of travel receipts, invoices, and cost transfer justification. The Cost Recovery Coordinators have a point of contact at each district responsible for obtaining the required support and forwarding to the CX.

Problem areas

Two major problems encountered when requesting the supporting documentation from the districts are travel

receipts and charge card support. In some instances, employees are travelling or on leave, or they have left the organization and taken their travel vouchers with them. Even though special policies were made for travel charged to Superfund, it would be helpful if all original travel vouchers involving environmental projects were maintained in one central location within an office. The travel receipts retained by the traveler are official files of the Corps activity that requested the travel to be performed and they must remain in the work place if the traveler leaves his/her position.

Credit card payments are usually processed by the Logistics Office and the supporting documentation is not required to be sent to the Finance Center for payment. The credit card invoice and the support are financial records and are to be retained for 30 years under MARKS if they are associated with an HTRW project. This is very critical in supporting airline ticket payments.

Web site

The information above is only a brief synopsis of the cost recovery mission. If you work with the HTRW programs and would like more detailed information, log onto the cost recovery Web site at <http://www.environmental.usace.army.mil/info/technical/costrecov/costrecov.html>.

For more information, contact Cheryl Young at 402-697-2434 or Lucy Harris at 402-697-2433.

San Diego City Schools produce ordnance awareness video

By **KIM GILLESPIE**
Huntsville Center

San Diego City Schools, with the help of school district staff and local students, is producing an ordnance awareness video as part of a joint community and Army effort to alert students and their families to the potential presence of ordnance in the former Camp Elliot (Tierrasanta community) area.

"Having the school system and students involved with the video is true public involvement. It also promotes greater awareness of the issue because people they know and trust are part of the video. Knowing someone that is in the video or helped make the video makes it much more interesting and more personal to the community," said Brad McCowan, Project Manager for the Huntsville Center Ordnance and Explosives Design Center.

Ursula Kroemer, Executive Producer of videos for the San Diego City School System, offers a similar opinion. "I just love the purpose—knowing how valuable it can be to the community," said Kroemer. "I agree with the message the Army is trying to get across regarding safety, and having a video made by people who live, work and go to school in the community makes it that much more meaningful."

The video resulted from the Corps' first recurring review of an ordnance and explosives project at the former Camp Elliot. Recurring reviews evaluate whether ordnance and explosives removals and other risk reduction methods remain effective and continue to protect the public. The reviews are to be conducted as needed, or within five years of the conclusion of a project. The Corps concluded its investigation and cleanup of the former Camp Elliot in 1994, and several types of institutional controls, such as warning signs and educational programs have remained in place. The recurring review was performed in 1999 and included a site investigation, stakeholder interviews, public interviews and a survey of community members.

The Corps concluded through its recurring review that the previous work and institutional controls remained protective of the public, but some initiatives to improve public awareness were suggested. "Many of the survey respondents and stakeholders expressed concern about area students receiving ordnance awareness information," said McCowan. "The Tierrasanta Community Council had previously produced a video called 'Play it Safe,' but it was becoming dated and was geared toward younger children. The San Diego City School district representative suggested that we use the school district's video production capabilities and local students to create a new video directed toward teen-agers."

Funding could not be made available until fiscal year 2001, so

the video project did not begin in earnest until 2001. "We were contacted by ZAPATAENGINEERING (the Corps' contractor) in January, and actual production started in March," said Kroemer.

"The proposed concept for the video is that the students from the cross country track team at the high school in Tierrasanta are running along one of the many paths in the greenbelt or canyon areas, and when they stop to rest on a rock, one of the students spots a suspicious metal item. The students mark the area so they remember where the item is, and report it to their track coach. He tells them about the area's history and how it was once used for training by the Department of Defense, and that some dangerous ordnance items may still be found in the area," she said. "The students call 911 to report the item, and the San Diego Fire Department responds. The Fire Department also provides information



The jogging paths of Tierrasanta are part of the proposed concept for the ordnance video.

about the dangers of old ordnance."

The script concept was forwarded to ZAPATAENGINEERING, and ZAPATA also helped shape the message of the video. "We had to make sure that the video incorporated the Corps' safety guidance. Everyone was in agreement that we also wanted the older students to pass along the safety message to their younger siblings and warn younger students about the potential dangers," said Yolanda Hubbard of ZAPATAENGINEERING.

Kroemer agrees that the video is intended to make the older students the teachers for younger siblings and students. "It's different from the first video because we wanted the older students to be an example for the younger kids," she said. "This video will be viewed at the local schools, but it could also be used for other areas here in California with the same problem."

According to McCowan, funding for the video's production was \$22,000. "We verified the cost estimates, and compared to many private contractors, we are getting a good deal," he said.

Kroemer indicated that all footage for the video will be shot by the end of June, before the school year is complete. "School goes year round here, so we hope to have a finished product by July," she said.

"The City of San Diego and the Tierrasanta community have been great to work with on this project," said McCowan. "When you talk about institutional controls working, you're talking about local initiatives, and this video is a great example. California state environmental regulators were also involved with the process, and they were extremely pleased with our processes, the relationships, and initiatives with this community. I hope that other projects and communities will consider using local resources to produce a product like this video."

For more information about video, contact Brad McCowan at 256.895.1174 or Yolanda Hubbard at 704.358.8240.

Corps Environmental Development Workshop 'Proceeds On'

Portland conference provides insight into Corps environmental program

Graphic by JANIS CLARK
Nashville District



By **JOHNETTE SHOCKLEY**
HTRW CX

The theme of this year's USACE Environmental Development Workshop, "Environmental Stewardship: We Proceed On," is in honor of the Lewis & Clark expedition that labored

to reach the Pacific Ocean. "We proceeded on" was a phrase frequently used throughout the journals of the Expedition.

On June 20, 1803, President Jefferson gave a letter of instructions to Captain Meriwether Lewis giving the Corps of Discovery very specific guidelines for what was to be accomplished during their journey across the continent and back. "The object of your mission is to explore the Missouri River, and such principal streams of it, as by its course and communications with the water of the Pacific Ocean may offer the most direct and practicable water communication across the continent, for the purposes of commerce..."

Following in the path of the Lewis & Clark Corps of Discovery, more than 550 Corps scientists, engineers, natural resource managers and researchers also embarked on a journey to Portland, Ore., on April 16-20 to exchange information and ideas and increase communication concerning environmental issues within the Corps.

During the plenary session, Lt. Gen. Robert Flowers, Chief of Engineers, presented guidelines for all in the environmental field to contribute and follow in the 21st century. Lt. Gen.

Flowers' remarks can be viewed at: <http://www.hq.usace.army.mil/executive/speeches/041701-remarks.PDF>.

Throughout the five days in Portland, the workshop program offered a wide range of topic-focused seminars in policy, planning, restoration, monitoring and measurement—more than 100 information-intensive educational presentations, focused workshops and site-tours. A top-notch showcase of state-of-the-art products and services were also available for workshop participants in the exhibit hall to help them acquire the knowledge and skills needed to implement innovative strategies for improving the environment.

Environmental presentations focused on hot topics such as in situ steam extraction and other aggressive source removal technologies to more passive restoration solutions like natural attenuation or reactive barriers.

Ecological restoration presentations focused on regional projects such as the Everglades restoration to smaller, watershed and lake management, dredging, infrastructure issues. Sustainable development, a process whereby environmental and economic considerations are effectively balanced in project planning, design, construction, operation and maintenance was also a consistent thread throughout the workshop sessions.

Presentations were also made on ordnance and explosives, environmental compliance, innovative measuring and monitoring techniques, field analytics, and updates in ground water modeling. Workshop participants received information on new policies and updates representing the Army Installation Restoration, Formerly Used Defense Sites, Superfund, Brownfields, Abandoned Mine Lands, and Formerly Utilized Sites Remedial Action Program were also provided.

A workshop summary, abstracts and presentations are available at <http://hq.environmental.usace.army.mil/edw2001>.

Congressman Blumenauer encourages federal agencies to lead by example

By **CLARE PERRY**
Northwestern Division

In brief remarks following Lt. Gen. Robert Flowers' welcoming address, Rep. Earl Blumenauer, (D) Oregon, told a Corps of Engineers crowd nearly 600 strong that the "U.S. Congress is missing in action."

"We've got to be there with money, chalk and marbles," he said. "It's my objective to achieve everything outlined by Lt. Gen. Flowers."

That means Congress must listen to the men and women doing the work and provide feedback. "I want to make sure Congress is a full partner with you," Blumenauer said.

"Since the federal government has long been involved with infrastruc-

ture, land use and livable communities," he said, "it is an appropriate partner for states and local governments trying to produce more livable communities. With a can-do attitude, principles of sustainability, and focus on the big picture, we can make a difference," said Blumenauer.

Simple concepts such as emphasizing street connectivity, overall land use principles, mixed use, and urban forestry all play into livable communities.

"Our conscious decisions about lifestyles, conservation, and transportation compound whatever other difficulties we've got," Blumenauer said. "There is a need to lead by example and nurture partnerships up

front, rather than cleaning up afterwards. One example would be to reform the flood insurance program," he said. "Two floods and you're out."

But no area has a more profound impact than the Department of Defense and its facilities, he said. "DoD has \$500 billion worth of infrastructure. Our goal ought to be an example of what's best, not what's a problem," Blumenauer stated. That means doing something about the quality of life for 1.5 million service members and their families, many of whom live in substandard military housing.



Rep. Earl Blumenauer

Everglades partner addresses Portland conference, praises team effort

By CLARE PERRY

Northwestern Division

In remarks to participants at the USACE Environmental Development Workshop April 17 in Portland, Ore., Frank Finch, Executive Director of the South Florida Water Management District (SFWMD), said the Comprehensive Everglades Restoration Project is a testament to what partnering can achieve.

The Corps has a lot to be proud of, Finch said of the world-class undertaking. "It's been a grand experiment in moving forward partnerships between a local sponsor and the Corps," he said. The superb working relationship between Jacksonville District and the SFWMD complements the huge partnering effort between the State of Florida and the federal government.

The project's goal is to restore, preserve and protect the South Florida ecosystem by ensuring future water supplies, maintaining flood protection and encouraging a healthier ecosystem.

The nine million acres of the original Everglades could support wildlife and recover from natural disasters fairly easily because the landscapes were all linked by water through a proverbial "river of grass," said Finch. Then a long history of channeling, ditching and draining began with a shift in viewing the Everglades as something to be conquered and contained.

The Flood Control Act of 1948 gave birth to a flood control system of some 300 water control structures to protect public health and safety, and assure a public water supply and healthy economic development of the area.

The unintended consequences of the project, however, disrupted the quality, quantity, timing, and distribution of water, endangering more than 68 species of plants and animals in the process. An average of 1.7 billion gallons of water per day is lost through discharge to the ocean and gulf, Finch said, contributing to contaminated wetlands, defoliation, invasive plants, fish kills, avian breeding difficulties, and a repetitive water shortage.

To remedy the situation, Congress directed the Corps in 1992 to re-evaluate the project for modifications to correct some or all of the problems. A comprehensive look at restoring the Everglades began, based on sound science and recognition of the correlation between ecological response and hydrologic changes, Finch said. Congressional authorization in the Water Resources Development Act 2000 (WRDA 2000) solidified the priority of the project at the state, regional and national levels.

The restoration plan consists of numerous projects designed for a multitude of purposes: capturing water in above and below ground water

storage facilities that would otherwise go to tide; reusing wastewater and stormwater; filling in some canals; changing operations to mimic natural flows; eliminating habitat-damaging freshwater discharges; and enhancing water supply and flood control.

"We are writing history here," Finch emphasized. "But we must be flexible and willing to make mid-course corrections."

High on his list for ensuring viability of the \$8 billion, 25-year project is maximizing private sector involvement and outsourcing work to handle the increased workload. Innovative procurement policies, continued stakeholder involvement throughout, and time spent on nurturing the partnership are also key elements in his management plan.

Fortunately, the project enjoys broad stakeholder support. Finch credits the Corps with providing the necessary leadership and consensus-building skills to making the partnership work for 12 federal agencies, seven state agencies, 16 counties, several tribes and outside interest groups.

He emphasized certain quality issues that contribute to the success of a cost-sharing partnership: notification versus consultation; learning to "let go" of the process and authority; handling disagreements in factual, candid discussions; understanding the non-federal partner's issues; and sharing resources and corporate information.

Drawing a good-bad-ugly scenario, Finch, a retired Army engineer, said the Corps' technical prowess is "the best in the world!" Combined with a credible and proven process and the considerable federal dollars committed to the project, a Corps partnership can be advantageous for a local sponsor.

The downside is that the Corps has cultural biases because "they've done something a particular way for years and federal cost sharing generally carries a lot of strings with it," he said. "The disheartening aspects of partnering with the Corps center on a process that is too often too slow."

"Just waiting to get credits can have a big financial impact on non-federal partners," Finch said. "It's very frustrating to see opportunities lost because we don't have dollars in our coffers yet."

Smaller local sponsors will live and die by these impacts, he said. "Just be sensitive to that."



Stakeholder provides public involvement advice at conference

By CLARE PERRY

Northwestern Division

If the public is given an opportunity to play a constructive role, they will step up and do just that, Lenny Siegel assured listeners at April's Environmental Development Workshop in Portland, Ore.

Siegel, director of the San Francisco-based Center for Public Environmental Oversight, identified two major ways of involving the public. "We can either do something very poorly or we can do something very well," he said.

Start by recognizing the many different publics that may be affected by our actions, he suggested. Activist publics range from conservation activists interested in preserving flora and fauna to traditional environmental groups concerned with how pollution, toxins and contamination affect them. Traditional environmental groups tend to care more about things like water and air quality and the dangers of unexploded ordnance

because it is easier to identify the parties who are responsible. But they are also concerned with issues that are not regulated – noise, smell, aesthetics – and Brownfields.

Other groups that must be considered are developmental publics who dwell on properties controlled by or once owned by the military, as well as military personnel and their families. Too often, the itinerant nature of military duty makes it difficult to get them involved and, just as often, they are ignored because they lack the ability to give the issue necessary visibility. Since they move around frequently, it's mistakenly thought that their exposure is limited, Siegel said. "Yet, military families may be going right into another contaminated area."

The way to succeed in involving various publics on environmental issues is to engage them in helping you do a better job. "The number one lesson is to build trust and communicate early and often,"

said Siegel. "Don't put off disclosure, don't protect people from the truth, because it only increases hysteria and blame."

"If you have built a relationship of trust, people will respond and make constructive suggestions," he said. "Make as much information available to the public as possible and provide them with independent technical assistance."

"Let them hire their own consultants – that empowers the public to play a constructive role," he advised. "You've also got to learn to tolerate institutional blame because when you speak for the government, you will get blamed."

But the benefits of a solid public involvement program are better projects, a more knowledgeable public, and better public relations. "When you do good work, you get better press and better relationships in the community," Siegel said. Activist publics also make the best allies to get your agency programs funded, he added.

Corps has presence at UXO Forum 2001

By KIM GILLESPIE

Huntsville Center

The UXO Forum 2001 was held April 9-12 in New Orleans, with U.S. Army Col. Stacey Hirata (representing Maj. Gen. Robert L. Van Antwerp, Jr., Assistant Chief of Staff for Installation Management) serving as opening speaker.

Corps of Engineers representatives from various offices including the Engineering Research and Development Center (ERDC),

information, integrated management and outreach as the keys to sustainable range management. Hirata also noted the role the Corps is playing with Range Inventory and ERDC's analysis of chemicals present with munitions, two areas he considers critical to striking a balance between training and protecting the environment.

"The Corps is always well received at the Forum because of the wide range of activities we



Huntsville Center, Hazardous, Toxic, and Radioactive Waste Center of Expertise (HTRW CX), and the Baltimore, New England, Omaha and Sacramento Districts presented or assisted with more than 15 of the event's presentations.

Hirata addressed "Facilities Management for 'An Army of One.'" He emphasized that the Army Transformation is all encompassing and "adjusting to changes for training" to facilitate sustainable range management. He cited

perform concerning ordnance and explosives," said Carol Youkey, chief of Huntsville Center's Ordnance and Explosives Center of Expertise.

"The Corps has responsibilities and experience ranging from Installation Restoration, FUDS and BRAC OE work, to ERDC's research and development, the HTRW CX OE-related work, and design and execution of investigations and cleanups," she said. "We have a lot of experience to share."

Fort Carson finishes alternative landfill cap

By **DON MOSES** and
LINDA WHITE

Omaha District

Omaha District and Fort Carson, Colo., personnel recently put the finishing touches on the evapotranspiration (ET) cap portion of Landfill 5. The long process of gaining approval for the ET cap design has the benefit of clearing the way for future potential use at other landfill sites on the installation.

The ET cap was custom designed and constructed by Earth Tech Environment and Infrastructure for 15 acres of the 20-acre Landfill 5 located at the northeastern end of the installation. Work on the cap began mid-April 2000 and was completed in October.

Approval for the alternative landfill cap came in March 2000 from the Colorado Department of Public Health and Environment. The design of the ET cap was the first Resource Conservation and Recovery Act (RCRA) Subtitle C (hazardous waste) alternative cap to be approved in the state of Colorado. Alternative caps are attractive because of the lower cost as compared to conventional ones. The savings amounts to approximately \$100,000 per acre over a

conventional RCRA subtitle C caps.

In arid and semi-arid climates, such as Colorado's, an ET cap relies on soil water storage, establishment of vegetation and soil water loss through evapotranspiration to restrict deep drainage into potential groundwater sources. An ET cap functions by storing water in the soil during the plant dormant period and removes the stored water during the growing season through evaporation and plant transpiration.

The ET cap for Fort Carson consists of a 4-foot thick clay loam texture soil that is vegetated with a combination of warm and cool season native grasses. The performance of the ET cap is dependent on many variables including climatic conditions, soil and vegetation characteristics, and cap thickness.

Management practices to establish and maintain a permanent plant cover include installation of cover crops, biosolids application, soil fertilization, mulching, supplemental irrigation and mowing. Maintenance and monitoring activities will assess the seasonal composition, cover area and health of plant species. Cap performance monitoring includes several mea-

sures to determine water flow and percolation within the cap.

The ET cap at Fort Carson Landfill 5 is using approximately 500 tons of biosolids (sewage sludge) as a soil amendment. The biosolids were generated at the Fort Carson waste water treatment plant as a by-product of the treatment process. Their use allows the installation to avoid \$90,000 in tipping fees for landfilling. The installation will save approximately \$50,000 to \$60,000 a year in tipping fees thereafter as long as the biosolids are used. This material is added to the cap material primarily to add organic matter and aid in water retention. The biosolids will aid in revegetating the cap and providing a good plant community above the cap. Future landfill caps on Fort Carson will also incorporate biosolids in the cap material.

The remaining five acres of World War II era Landfill 5 were covered with a conventional cap to convert the site into a motor pool parking lot for the nearby Army Reserve Center. Work was completed on this portion of the project at the end of May.

For details, contact the authors at 402.221.4318.



Photo by CRAIG DAVIS
Earth Tech

The photo at left shows an overview of Landfill 5 ET cap after biosolids application. At right, construction of the evapotranspiration cap includes soil tilling to provide conditions that favor plant germination and growth.

Synergy principle guides Natural Resource Management Gateway

By **KATHLEEN PERALES**

ERDC Environmental Laboratory and

BONNIE F. BRYSON

Louisville District

Imagine a place where you can go to learn about the U.S. Army Corps of Engineers Natural Resources Management (NRM) Program. A place that provides information the way managers manage! A gateway that connects the people, programs, policies and practices of the NRM Program in one location. Does such a place exist?

Welcome to <http://CorpsLakes.usace.army.mil> and the NRM

Gateway. Under the auspices of the Recreation Management Support Program, the Recreation Leadership Advisory Team (RLAT) is creating such a location for the Recreation business area. The concern: potential for loss of corporate NRM knowledge in a dynamic environment. The desire: a place to provide access to emerging trends, improve access to agency information, share innovation, train new staff, improve internal communications and in so doing, provide improved external responsiveness to the customer.

The Engineer Research and Development Center (ERDC) has designed and developed the NRM Gateway. Existing industry standards were examined to determine the best way to satisfy the needs of RLAT and the field. An integrated approach to people, programs, policies, and practices was begun and a knowledge management frame was employed. The National Recreation and Park Association (NRPA) agency accreditation standards were used as a framework and the Army's Fort Excellence Web site served as a guide. A Recreation Technical Coordinator was selected to organize all the information for the gateway, and a process evolved to identify and

post information covering the existing regulations, programs, and activities of related task forces.

The NRM Gateway's development differs from the way other Web sites are created. Field-level content subject matter experts (SMEs) were identified and additional topic areas were found in engineer regulations. A framework was established and a prototype was developed for one topic area. The site was presented to the RLAT for consideration in October 2000. The verdict, proceed on! So priorities were set and the first content development workshop was conducted in February 2001. The

workshop brought together SMEs and gave them a forum for synergy in developing the Web site.

Learning from each other, they shared their knowledge and understanding of NRM programs.

The NRM Gateway was released on April 17 at the National Environmental Development Workshop in Portland, Ore. The

Gateway is the start of an integrated knowledge management system for the recreation business area.

The next content develop-

ment workshop is scheduled for July. Phase I of the recreation program area is still ongoing and will not be complete until all existing task forces and programs are on line. The future vision is to bring in the Environmental Stewardship and Environmental Compliance elements along with developing the first Corporate Knowledge Management module across the NRM Program areas.

Comments and ideas about the Web site can be sent to the NRM Gateway Project Leader, Ms. Kathleen Perales, at Kathleen.Perales@erdc.usace.army.mil.



Natural Resources Management Gateway
to the future...

ERGO makes monster effort for Vicksburg District environmental compliance

By **MIKE SEAL**

Vicksburg District

ERGO. A foe that Godzilla might face in a Japanese monster movie? Actually, the U.S. Army Corps of Environmental Review Guide for Operations (ERGO) program is about compliance with environmental regulations. Program goals include:

- Enhance Corps environmental compliance at Federal, state and local levels.
- Improve Corps environmental management.
- Build supporting financial programs and budgets.
- Assure supervisors their environmental programs are being implemented effectively in accordance with Corps goals and objectives.

Operations Division, Project Resource Management Branch, operates the ERGO program. Teams of trained professionals conduct ERGO inspections covering 13 environmental protocols, which include air emissions management, cultural resources management, pesticide management, environmental noise, and pollution prevention.

ERGO assessments are conducted for 45 district projects. A district ERGO team, assembled by the District Environmental Compliance Coordinator, conducts external assessments every fifth year.

Onsite the ERGO team conducts record searches, interviews and site surveys to determine the facility's compliance status. The team compares operations with environmental standards and any deficiencies are written up as negative findings.

During fiscal year 2001, external ERGO assessments will be conducted at flood control projects in Arkansas that include numerous areas under grants to third parties, recreation areas, three field offices, and three hydropower plants.

"The ERGO program has become an essential aspect of our everyday operations including internal hired labor activities as well as areas granted to third parties to commercial marina operators and other third parties," said Joe Woods, Chief, Operations Division, Project Resource Management Branch.

For details, contact Mike Seal, Environmental Compliance Coordinator, at 601.631.5291.

Robotic ordnance removal operation used at former Camp Croft

By **KIM GILLESPIE**
Huntsville Center

The U.S. Army Corps of Engineers is conducting its first totally remote controlled removal operation at the former Camp Croft in Pacolet (near Spartanburg), S.C. The remote controlled equipment comes from the Air Force Research Laboratory (AFRL), and includes a bulldozer, an excavator (backhoe), an All Season MD-90 tractor, and a sifter/shaker.

"We needed to be able to safely and cost effectively remove the top 6 to 12 inches of soil in this five acre area to allow for the removal of ordnance which is expected to be below those depths. The high density of ordnance related items meant manual excavation and identification of each item would no longer be the best method of removal because of the increased risk to worker safety, and the extensive length of time and increased costs this method would incur," said Ron Nesbit, project manager for the Corps' Charleston District.

The Corps solicited AFRL to use its remotely controlled equipment. "We asked them to use their remote controlled equipment to remove the first foot of soil, which contained the majority of the ordnance fragments. This would make it cost effective for us to perform removals using geophysics or mag-flag removal methods," said Karl Blankinship of the Corps' Huntsville Center Ordnance and Explosives Design Center.

After AFRL personnel visited the site, they recommended using the U.S. Marine Corps and AFRL jointly developed Caterpillar D-8 bulldozer with an armor

protection (and remote control kit) for remotely removing the layer of soil and pushing it to a designated area for processing. The excavator, a Caterpillar 325L "long-reach," with an AFRL-developed remote control system, was recommended to remove the stockpiled soil and lift it into a portable sifter. "The excavator also has a thumb attachment that can be used for stump and tree removal, and if the situation warrants, the thumb can attempt to remove unexploded ordnance to another location," explained Walt Walz, the Air Force lead for the robotic operation at the former Camp Croft.

The all-purpose remote transport system is an AFRL-developed platform, and is based on an All-Season Vehicle MD90 (commonly called a "Bobcat"). It is used to remove the sifted soil from beneath the sifter/shaker and is required to keep up with the excavator depositing soil in the shifter/shaker.

"All three of these vehicles are capable of being operational up to three miles in the line-of-sight," added Waltz.

The sifter/shaker is a commercially available Nordburg-90D that uses a two-inch screen (the smallest piece of suspect ordnance is a 60mm mortar round, 2.5 inches in diameter), and is modified with a remote off switch so the ordnance technicians can safely approach the unit to identify the sifted items.

The robotic equipment is operated from a Mobile Command System (a specially equipped van) by Air Force personnel. "We have three operators that are trained to operate each of these vehicles. Each vehicle has a set of 'joysticks' that control the vehicle's various functions, to include gear changes for the dozer, and the operator watches the vehicle's movements on a

monitor," said Waltz.

"The robotic equipment provides an extra safety measure by allowing our workers to remain away from the potentially dangerous items as they are uncovered. The addition of the equipment to the site is also good news for taxpayers,"

said Blankinship. "We can remove large amounts of topsoil, which holds most of the ordnance and fragments, and gain quick access to those items that may be buried deeper in the ground. We anticipate a savings of over \$250,000 and a time reduction from 90 weeks to 10 weeks," he added.

The Corps' Ordnance and Explosives Center of Expertise safety personnel endorsed and sponsored this approach, and it was approved by the Department of Defense Explosive Safety Board.

The remote control operation began in March. According to Walz, "The equipment is leading edge application of innovative ordnance technologies under development by the Department of Defense for worldwide application to ordnance investigations. This operation is a real challenge because of the hilly terrain, but it offers a great example of the variety of functions the robotic equipment can perform."

A media and technical demonstration day was held for the media and Restoration Advisory Board members on April 4. "We wanted the public to see how and why we needed to use this equipment," said Nesbit. The robotic operation is scheduled for completion this summer.

For more information, contact Karl Blankinship at 256.895.1548.



(Top) Rob Nesbit tells a local news reporter about the remote controlled excavator behind him. **(Below)** Walt Walz operates the bulldozer from the Mobile Command Unit while Karl Blankinship and a local news reporter observe.

What should you do when you find hazardous wastes on your MILCON job?

By ERIC ARNDT

Northwestern Division

Engineers tend to approach things in a structured way. The process of “Plan, Do, Check, Act” is firmly ingrained in the Corps’ business practices. It is cited in the U.S. Army Corps of Engineers’ Engineer Regulation 5-1-11 as an integral part of quality management for the Program Management Business Process. However, unanticipated hazardous waste sometimes derails the carefully orchestrated train of “Plan and Do” processes during military construction projects.

It requires making dramatic changes in the way work is performed. Waiting to find the absolute best plan may take time that could be better used on a less elegant but more expeditious solution. Indecision must not be allowed to degrade the situation or jeopardize safety.

A good process executed immediately is usually preferable to the best process executed late especially if the later plan includes substantial extended overhead. Time is money. The contractor tries to protect his people, his profit margin, and his reputation. Meanwhile, the customer expects the Corps to handle the situation as expeditiously and economically as possible.

The “Check and Act” portions of the process comes into play here by performing risk analysis during pre-construction activities. By using contingency plans, those time consuming periods of indecision can be avoided. If a process is in place - a process that can be done immediately and is useful and productive - the train may stay on the tracks. The key is to develop a contingency plan and to get buy-in from the major players - the installation, the contractor, the Contracting Officer, the Area Office, and the Project Manager - or perhaps more concisely, the project delivery team.

Here are some suggested steps for the Unanticipated Hazardous Waste contingency plan:

- First and foremost, remove people from danger. Every employee of the Corps of Engineers has a responsibility to ensure the safety of others and themselves. Alert emergency personnel if circumstances require it, and document exposure to individuals and places.
- Determine the extent of contamination and prevent further contamination. Is the contamination spreading? Sequester or segregate areas of contamination. Protect the public from exposure using safety fences, placarding, and involve the emergency responders if necessary.
- Notify the project delivery team and ensure that your hierarchy and the installation are informed. Simple lines of communication are best. Know who is responsible for reporting

a) React like a deer caught in the headlights?

b) Pray for divine intervention?

c) Wait it out and hope it goes away by itself?

d) Lament “Woe is Me” and cover yourself in sackcloth

e) None of the above



Graphic by LEANN ARNDT

to whom. Assign one primary point of contact, and make certain that everyone knows who this person is. Have points of contact and phone numbers in your contingency plan. This one easy administrative procedure can save everyone involved enormous amounts of time and effort.

- Determine what areas can be safely worked, and release them to the contractor for immediate use. Activate your analytical testing services to assist. Notify the contractor, in writing, of the suspended work areas. This will allay his/her concerns about being held responsible for the delays and will establish a baseline for compensation if required. Document the occurrence early to remain in control of the facts. Recognize the contractor’s right to an equitable adjustment. Do not assume that the issue will play itself out or delay putting it in writing. The contractor is a vital partner in the proceedings, but it is important that contractor remain a partner, and not the driver.

- Mobilize the forces required to adequately identify, quantify, and process potential hazardous wastes. Here is where serious planning ahead of time will pay off immensely. Identify those firms under contract to your office, the District, the Division, and the customer, which are capable of handling the different hazardous wastes. Know their capabilities. If you are a district or division activity, ensure the field knows all of your capabilities and contracts. Tell them early and often before they are needed. Point of contacts and phone numbers should be included in your contingency plan.

No one wants to react like a deer caught in the headlights due to unexpected project circumstances. Having boundless money to take care of problems is not normally a luxury the Corps enjoys. And waiting for divine intervention?... When hazardous waste contingency planning becomes an essential and integral part of the Corps’ preconstruction activities, it won’t be necessary to resort (or consider) such options.

For more information, contact Eric Arndt at 402.697.2413.

Innovative OE technology being tested for chemical agent destruction capability in joint Belgium-U.S. effort

Tech update

The U.S. Army Corps of Engineers' Huntsville Center, Ordnance and Explosives program's use of the Donovan Controlled Detonation Chamber to safely destroy conventional unexploded ordnance in an environmentally safe manner at selected ordnance projects has peaked the interest of foreign governments.

The commercially developed, transportable detonation chamber allows repetitive use and has several environmental advantages over the traditional incineration or Open Burn/Open Detonation methods. It eliminates soil, stormwater and groundwater contamination threats, and lowers air emissions to federal, state and local standards or below.

The Donovan Chamber has received approval for use with conventional explosives from the Department of Defense Explosive Safety Board and it has been used at a site in St. Louis and the Massachusetts Military Reservation in Cape Cod, Mass.

In June 2000, Huntsville Center demonstrated the viability of using the chamber for the destruction of liquid filled unexploded ordnance. As a result of Huntsville Center's testing, the Belgium government, in cooperation with the U.S. government, began a series of tests at Poelkapelle, Belgium, to validate this technology's capability to destroy their chemical agent stockpile. Phase I tests are complete and results indicated that the Donovan Chamber achieved a high destruction rate for a variety of chemical agents. The Belgians are moving forward with Phase II tests in June.

The tests have generated interest from other countries to include Germany, France, Japan, Italy and China.

For more information about the Belgium-U.S. chamber tests, contact Chuck Twing at 256.895.1543. For more information about the Donovan Controlled Detonation Chamber visit www.demil.net

Environmental *kudos*



Courtesy of Kansas City District

The Formerly Utilized Sites Remedial Action Program (FUSRAP) team of Kansas City, New York, and Tulsa Districts was recently honored as the Corps' Project Delivery Team of the Year for its work on the New York District's three New Jersey FUSRAP sites in Maywood, Middlesex, and Wayne.

The team coordinated characterization and remediation activities occurring simultaneously at all three sites, developed a GIS database for the Maywood site, engineered and built a temporary state-of-the-art wastewater treatment plant at the Wayne site, developed a solid disposal approach at the Middlesex site that became a FUSRAP model, and completed an innovative soil volume reduction pilot study with potential applications across FUSRAP.



THE CHALLENGE TO EXCEL

Professional Development Opportunities

The following FY01 Environmental Restoration and Compliance Training sessions currently have spaces available. For more information on these sessions, contact Joy Rodriguez of the Professional Development Support Center (PDSC) at 256.895.7448.

| | | | |
|------|----------------------|------------------|------------------|
| #223 | HW Manifesting | July 16-20, 2001 | Norfolk, Va. |
| #399 | Exp Ord Res & Safety | Aug. 6-10, 2001 | Huntsville, Ala. |

Below is a list of FY01 PROSPECT environmental courses for next quarter that have a limited number of spaces still available. Please contact your local training coordinator about enrollment, or John Buckley of the Professional Development Support Center (PDSC) at 256.895.7431.

| | | | |
|------|--------------------------|------------------|----------------|
| #137 | Reg V Functions & Values | July 9-13, 2001 | Tampa, Fla. |
| #424 | Seagrass Mitigation | July 16-20, 2001 | Juneau, Alaska |

The Corps Professional Development Support Center, under the direction of the HQ Corps Director of Human Resources, is pleased to announce the availability of the FY2002 Survey of Proponent Sponsored Engineer Corps Training needs. The annual Purple Book of offerings is available for downloading on the web at <http://pdsc.usace.army.mil>. It's also easier than ever to check the schedule for a specific class by simply clicking on *What's New* or *Class Schedules* under the Quick Menu.

Questions regarding the survey should be referred to your local training coordinator. The PDSC point of contact for general survey and registration programs is our Registrar, Ms. Janice Perry at 256.895.7464.

CLOSING NOTES

Upcoming Events



National Brownfields 2001 Conference

Sept. 24-26, 2001
Chicago, Ill.
Web site: www.brownfields2001.org
Registration deadline: Aug. 24, 2001

Wildlife Habitat's Council's Conference--"Breaking New Ground: The Benefits of Ecological Enhancement in Brownfield Development & Superfund/RCRA Remediation Projects"

July 10-11, 2001
Washington, D.C.
Phone: 301.588.8994
E-mail: RCRA@wildlife.org
Web site: www.wildlifehc.org

Project Delivery Team (PDT) Conference (*open to all members of the PTD, however quotas are assigned to each*)

August 20-23, 2001
Pittsburgh, Pa.
HQ POC: Bill Augustine
Site POC: Lisa Eberly
Phone: 412.395.7482
E-mail: Lisa.A.Eberly@usace.army.mil

Corps Northeast Region Environmental Stewardship Techshed

Sept. 12, 2001
Pittsburgh, Pa.
POC: Dr. Joe E. Svirbely
Phone: 513.684.3029

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